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THOMAS G. NEWMAN,
EDITOR.

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Mr. C. J. H. Gravenhorst, of Wilsnack, Germany, and editor of the *Bienen-Zeitung*, writes as follows on July 19, 1890:

DEAR MR. NEWMAN:—I am always very glad when the AMERICAN BEE JOURNAL visits my home, and I read it with the same interest as in the days of the late Samuel Wagner, the founder of that good old bee-paper, and such writers as Langstroth, Gallup, Wilkin, Root, and many others who were at the head of its contributors. I think that the BEE JOURNAL, having advanced from a monthly to a weekly, has done very much to promote bee-keeping, not only in your country, but also in others.

How glad would I be, if I could arrange to visit you at the great Columbian Exposition to be held in Chicago in 1893, and shake hands with you, as in those pleasant days when we met at the hospitable home of our friend, Thos. W. Cowan, at Horsham, England! How I would enjoy making the personal acquaintance of the American bee-keepers. Now, if I shall not have the pleasure to visit the great Exposition at Chicago, others of my bee-keeping friends in Germany and Austria will do so, as some have already told me. I know that they will be welcome.

Yours truly,
C. J. H. GRAVENHORST.

We should be delighted to meet our friend Gravenhorst, as well as other European apiarists at the Columbian Exposition to be held in Chicago in 1892-93. Of course the International Bee-Convention will be held here at that time, and the apiarists of the world will have an International "love-feast" during the 400th anniversary of the discovery of America. Let there be an universal gathering—for all will be welcome. It will be a time long to be remembered by those privileged to enjoy it.

☞ Dr. S. W. Morrison will locate in Colorado Springs, Colo., about Sept. 1, and consequently he has given up the queen-rearing business in Pennsylvania, and does not intend to resume it in Colorado.

The Springfield Exposition and Sangamon Fair will be held at Springfield, Ills., on Sept. 8 to 12, 1890. Upon the request of the management, we have offered *Special Premiums*, as indicated in the following taken from page 64 of the Premium List:

The publishers of the AMERICAN BEE JOURNAL, of Chicago, offer an attractive and valuable premium for the best exhibit of Comb Honey from each township in the county, of an annual subscription of said paper. The AMERICAN BEE JOURNAL is a recognized authority in all matters pertaining to bee-keeping.

1631	Best comb honey from	Auburn.
1632	"	"	Ball.
1633	"	"	Buffalo Hart.
1634	"	"	Capital.
1636	"	"	Cartright.
1637	"	"	Chatham.
1638	"	"	Clear Lake.
1639	"	"	Cotton Hill.
1640	"	"	Cooper.
1641	"	"	Curran.
1642	"	"	Fancy Creek.
1643	"	"	Gardner.
1644	"	"	Illiopolis.
1645	"	"	Island Grove.
1646	"	"	Lanesville.
1647	"	"	Loami.
1648	"	"	Mechanicsbrg.
1649	"	"	New Berlin.
1650	"	"	Pawnee.
1651	"	"	Rochester.
1652	"	"	Salisbury.
1653	"	"	Springfield.
1654	"	"	Talkington.
1655	"	"	Williams.
1656	"	"	Woodside.

The Capital Bee-Keepers' Association will award premiums for honey, bees, apiarian supplies, etc., in sums aggregating $50 in cash. For particulars concerning the classification of prizes of the Capital Bee-Keepers' Association, address the Secretary, C. E. Yocom, of Sherman.

Special prizes for the competition of the world, are specified in the premium list of the Sangamon Fair, which can be had upon application to the Secretary, Col. Charles F. Mills, Springfield, Ills.

Foul Brood in Canada.—Bee-keepers in Canada will be interested in reading the following from the Montreal *Witness*. A man who signs himself "Bee-Keeper," asks the following questions:

Last summer we became aware that our 6 colonies of bees were affected with foul brood. In the fall we took out most of the infected frames and put in new ones. When looked at in the spring, the colonies had about a dozen foul-broody cells in each brood-frame, and they have no more foul brood than that now. The colonies are of fair strength, rearing lots of brood, and gathering plenty of honey. 1. Do you think that that much foul brood is worth paying attention to? 2. How should we proceed to get rid of it? 3. We are spraying the brood-frames with—a mixture of salicylic acid, soda and water—will it have any effect?

The Rev. W. F. Clarke answers the questions thus:

1. Most certainly. Foul brood, in however small quantity, is such a deadly disease, and so sure to spread, that effective measures cannot be too soon taken for its extirpation. There is now a law in force, passed by the Ontario Legislature at its last session, requiring immediate action in all cases of foul brood.

2. This question will be best answered by quoting from the Act just referred to, Sec. 10, which requires that "every bee-keeper or other person who shall be aware of the existence of foul brood either in his own apiary or elsewhere, shall immediately notify the President of the Ontario Bee-Keepers' Association of the existence of such disease, and in default of so doing shall, on summary conviction before a justice of the peace, be liable to a fine of $5 and costs.

The President of the Ontario Bee-Keepers' Association is Mr. Allen Pringle, of Selby, Ont.

"Bee-Keeper" should at once examine his hives, and if there is any remaining trace of foul brood, report their condition to Mr. Pringle, who is empowered to send the inspector if he considers it necessary. If there is not much appearance of the disease, and it appears to be yielding to treatment, it may not be considered a case requiring inspection.

The inspector is authorized by statute either to order continuance of remedial treatment, or total destruction by fire of the affected hives, and of all tainted appurtenances. Foul brood has become so prevalent, and is so fatal in its effects, that the Ontario Bee-Keepers' Association deemed it necessary to seek Legislative interference to stamp it out. Hence the passage of the law in regard to the matter.

3. There is a great difference of opinion among bee-keepers as to the efficacy of salicylic acid and other remedies for foul brood. In some cases, the treatment referred to is reported to be successful; in others it fails. Much depends on the virulence of the disease.

Not a few excellent bee-keepers believe that by far the better plan when once foul disease has got a foothold in an apiary is, to cremate all the hives and tainted fixtures, and make a new start with healthy bees.

Sweaty Horses are peculiarly obnoxious to bees, and yet many will thoughtlessly expose themselves to danger by driving or stopping near hives of bees when the horses are hot. The accident at the farm of Henry Anglemiller, near Mercersburg, Pa., by which Anglemiller's daughter, Mrs. George Miller, had both of her feet cut off, was most distressing.

Mr. Anglemiller was just starting to mow a field of grass which adjoined his house. In making the first cut around the field, he thoughtlessly stopped just alongside of a shed which contained more than a dozen hives of bees. The perspiration on the horses attracted the bees, and they left their hives and swarmed on the man and the horses, covering them in black masses. Mr. Anglemiller shouted for help, and his daughter came running out of the house.

She threw her dress over her head to protect herself from the bees, ran right in front of the machine, and stooped down to loosen the traces from the mower, and liberate the horses. As she did so, the maddened horses sprung forward and cut both of her feet off exactly at the ankle joint. They each hung by a small piece of skin, and double amputation was made by the physicians.

She rallied from the shock, and it is thought she will recover. She is about 30 years old, and has four children, the youngest only four months old.

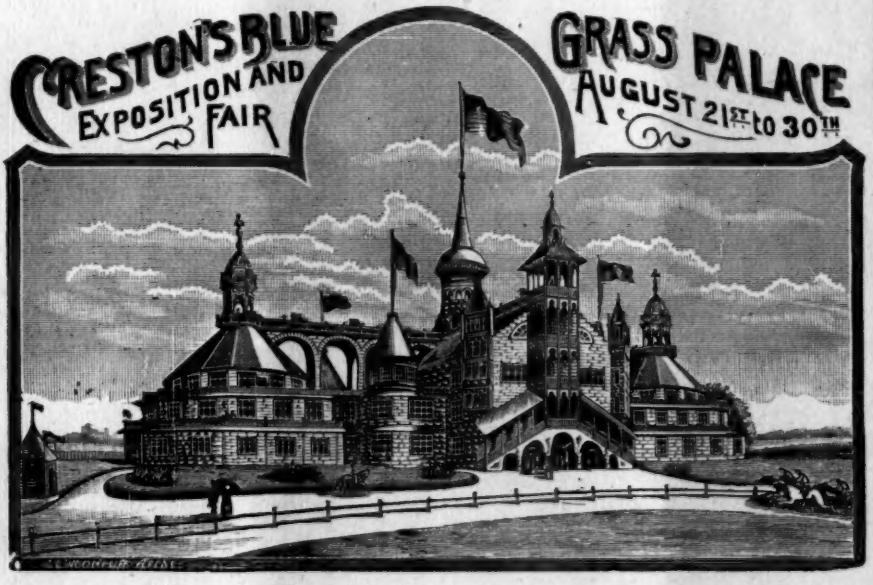
Her father is now in a very serious condition from the bees' stings. His face and arms were covered with the stings so that they had to be combed out with a fine-tooth comb. The horses will likely die.

GLEAMS OF NEWS.

Fair at Creston, Iowa.

The Creston Fair grounds, which will contain the celebrated "Blue Grass Palace," will be opened Aug. 21, by Gov. Boies, and that date will be "Governor's Day." The management expect to secure the attendance of the governors of Illinois, Minnesota, Nebraska, Kansas, and Missouri. Roger Q. Mills has been secured, and McKinley or Speaker Reed will undoubtedly be present; and it is intended to secure eminent men for each day.

The Palace building will front to the east, and will have a total length north and south of 265 feet, and will be 130 feet



wide. The main tower will be in the center of the building, and will be 120 feet high, while on the north and south wings will be two towers 90 feet high, and over the main entrance on the east side there will be another tower 100 feet in heighth, which, with several smaller towers, will give the building a magnificent appearance.

A bridge will be constructed from the south tower to the north one, which will be 12 feet wide and over 200 feet long, which, together with the balconies will accommodate one thousand people. This will be a fine place for visitors to watch the races, as a splendid view can be had of the entire race-track.

The south wing of the building will be used as an auditorium, having a seating capacity of 2,500 people. The Palace will be decorated with all the different grasses and grains, baled hay and straw. The decorations will be much more elaborate than those of last year, and a much larger amount of blue grass will be used.

The Palace of 1890 will far surpass anything in the palace line ever seen in the country, not excepting the famous Corn Palace of Sioux City, and visitors who viewed the old palace with wonder and admiration, will be greatly surprised and delighted, when they view the improved Blue Grass Palace of 1890.

This is a nice opportunity for the bee-keepers of that State to make a good exhibit. It takes only one fare on all railroads in Minnesota, Wisconsin, Illinois, Indiana and Missouri. This is the time to visit the Blue Grass region of Iowa. Eighteen counties have each a booth, and vie with each other in decorating in a unique and novel manner, and the booths are filled with the products and manufactured articles from each county, and each booth will have parties in charge for the purpose of giving information to visitors in regard to the value of land, the amount of the supply of timber, coal, stone, and all other advantages, etc. Home seekers, land buyers and investors can here obtain all the information they desire without the expense of going all over the Blue Grass Region, and select any part of the region they wish to visit.

Excursion tickets are good for 15 days. This will enable parties after visiting the Palace to visit any part of the Blue Grass section they desire.

First Lessons in Apiculture.

Beginners need good advice, and we seldom see anything more suitable and timely than the following from the *Southern Cultivator*:

Obtain, at least, a general knowledge of the natural history of the honey-bee, and of its management. Become acquainted, both theoretically and practically, with the use of improved apiarian implements. This can be obtained by studying a good manual for the apiary, and bee-periodicals, in connection with experience in the apiary.

Spend some time with a practical and progressive apiarist, even if you have to pay for the privilege of "helping" him; for successful and prudent care of bees at all seasons, and under varied circumstances, and the skill necessary to obtain the most honey in the best condition for the market, can be obtained only by practical experience in the apiary. From time immemorial bees have been kept by man, but until the past few years the pursuit has not received that attention that it demands. In this, as in all other departments of business, it is only the careful and practical that succeed.

Nature has provided the health-giving delicious nectar in myriads of beautiful flowers, that deck forest, field and garden, and developed the bees to gather this abundant sweetness and store it in quantities far exceeding their wants—and man may step in to aid nature and bees, and utilize the surplus honey for his pleasure and sustenance.

Locate where there is a profusion of white clover, with timber to the west and north, within range, where fruits and flowers abound; golden-rod, asters, Spanish-needle and heart's-ease, or smart-weed, abound in almost every locality, and where they do not, it is easy and profitable to put in a few acres of buckwheat for late fall honey, as there is none better for wintering bees, and extracted buckwheat honey will always find a ready sale.

In locating an apiary, avoid the close proximity of laurel thickets, as honey gathered from the laurel is unwholesome, if not really poisonous; avoid the neighborhood of cider-mills, and do not locate immediately near a large body of water, as it will confine your bee-range to one direction exclusively.

A broken or low country is no particular disparagement, because the less desirable for cultivation, the more encouragement will there be for you to take time by the forelock, and plant plentifully of such honey-plants as will insure a constant bloom, and provide against the time when others, encouraged by your success, shall also commence bee-keeping in your neighborhood, and overstock the location, unless nature is liberally assisted.

With all the above natural advantages secured, aided by your provident forethought in planting, you will have done much to settle the question as to the best method of wintering, and your bees, let them be of whatever color, will solve the problem as to which is the best race.

Globe Bee-Veils.—Here are two letters received—from two of our correspondents, and are about like scores of others, showing how the Globe Veils suit those who have them. Not one objection has ever yet been received:

Send me two more Globe Bee-Veils for my neighbors. I like mine very much.—J. B. DUNLAP, Rochester, Ind., July 17, 1890.

The two Globe Bee-Veils came by return mail. Thanks for promptness. I find them just as neat and clean as new (the soiling is so slight). They are indeed *sure* protection against bee-stings, mosquitoes, etc.—JOHN HAGER, JR., Arabi, La., July 16, 1890.

QUERIES and REPLIES.

Best Method of Preventing the Swarming of Bees.

Written for the American Bee Journal

QUERY 724.—What is the best method to prevent swarming—to clip the queen's wings, or to use a device which will prevent her from leaving the hive?—N. S.

I prefer a good queen-trap.—G. L. TINKER.

Neither will prevent it. That is not the reason we clip the queen's wing.—EUGENE SECOR.

Neither plan would have any influence to prevent swarming. As a convenience to aid in hiving swarms, I prefer to clip the queen's wing.—R. L. TAYLOR.

Neither of these will prevent swarming in the least. If you wish no swarms, run your apiary for extracted honey. Swarming and producing honey in sections go together.—G. M. DOOLITTLE.

Much depends on where the apiary is—if the ground is infested with ants. I should prefer the device to prevent her leaving the hive, instead of clipping her wing.—J. P. H. BROWN.

I like a modification of Alley's trap, that allows the queen to pass up near the top of the hive on the outside, and there remain until the swarm can be hived.—J. M. SHUCK.

Neither one will prevent swarming. Either of the above methods will work. Some prefer to clip the queen's wing, while others use a queen-trap; but the great majority just "let her rip."—H. D. CUTTING.

Give sufficient room by expansion, to accommodate the bees, and keep their attention turned to storing honey. I do not clip the queen's wings, or use any devices.—J. M. HAMBAUGH.

Use hives giving to the queen at least 80,000 worker-cells, and add surplus combs a little before the honey crop, adding combs as needed. If you want your queens killed, used a device to prevent them from following the swarms.—DADANT & SON.

Neither one "is the best," and neither will do it. Plenty of room given before the swarming-impulse has begun, is the best method I know of; but every one of my queens has one wing clipped, to prevent them going off with a swarm.—A. B. MASON.

Neither will prevent swarming. Both of the above methods are a help in hiving swarms, and in preventing them from absconding to the woods.—C. H. DIBBERN.

Clipping the queen's wings will *not prevent* swarming, but the queen can easily be found in front of the hive when a swarm issues. But why try to prevent swarming—that is, a first swarm?—MRS. L. HARRISON.

I would have my queens' wings clipped, by all means, but it does not prevent swarming, and I do not know anything that is entirely satisfactory. Under some circumstances, Alley's queen-trap would be good.—C. C. MILLER.

I do not believe in clipping wings, but many do. I believe in a device to prevent queens from leaving. Many do not. The question is an open one, and localities may so far differ as to cause a difference in practice. Neither plan will work at all times, but from the evidence so far, I think that keeping queens from leaving hives is the preferable plan.—J. E. POND.

Neither will have any influence whatever to prevent swarming, though either will prevent the swarm from going to the woods, at least until a young queen hatches. If the queen be taken away, and all queen-cells but one be destroyed, swarming can be controlled.—M. MAHIN.

Clipping the queen's wing will not prevent it. The clipping is only for convenience and safety when they do swarm. Neither is the confining of the queen advisable—it does not prevent the fever or desire which demoralizes the colony.—A. J. COOK.

I say neither. The most profitable way that I know of is to discourage swarming all you can, and then take the best of care of the swarms which issue, giving them every opportunity possible. It is with bees as with boys—it is better to get them not to want to do wrong, than to be locking them up and flogging them for doing wrong.—JAMES HEDDON.

Neither of the methods you mention will prevent swarming. It is not the queen that urges out the swarm. Bees will swarm whether the queen can leave the hive or not. The plan of clipping the wing of the queen, and all devices to capture the queen when a swarm issues, are only useful as helps to lessen the labor of managing the swarming nuisance. I prefer the plan of clipping the wing of the queen, to any of the devices yet brought to light. The swarming desire must be satisfied, if bees are expected to work and store honey.—G. W. DEMAREE.

While both methods will assist in the management of an apiary, neither of them will prevent swarming.—THE EDITOR.

Taking off Surplus Honey.—Hody Hine, of Sedan, Ind., asks the following question about taking off sections of honey:

When is the proper time to take off the surplus honey sections, in order to give the bees time to gather enough honey for winter? I have 2 colonies, but they have not started comb in the surplus honey-sections yet, owing, I suppose, to the dry weather, having had no rain for about three weeks, until last night and to-day.—HODY HINE.

Mr. James Heddon, by request, replies to the above letter as follows:

Here in this locality, which, I believe, is much like your own, I take off the surplus receptacles only when I am thoroughly satisfied that I shall get no more in them. My bees always take care of the brood-department; that is, the storing of plenty to last them through the winter, just the same when the surplus honey-sections are on as when they are off. My rule, at all times of the year, is to get all the honey possible in the surplus sections. If the season happens to turn in such a shape that we find any of the colonies destitute of winter stores, I feed them, but that rarely happens. In your case, I would say, take off the sections when you are satisfied the bees will put nothing more in them—but not before.—JAMES HEDDON.

The Nameless Bee-Disease.—Mr. E. F. Allen, of Eau Claire, Wis., on Aug. 8, 1890, sent us some diseased bees for examination, and wrote thus:

I have sent three bees from one hive; the black ones do not leave the hive—if they do, they go about two feet, and then back again, and the other bees kill a good many of them, and have done so since spring. There have been about two quarts of them killed so far. What is the trouble with them? Will Prof. Cook please answer in the BEE JOURNAL?—E. F. ALLEN.

Prof. Cook's reply to the above letter is as follows:

The trouble with Mr. E. F. Allen's bees is probably the "nameless bee-disease." This is the way it acts. The remedy is to separate the queen. This is not uncommon, and so it is no surprise that it has struck Mr. A's apiary.

It may be that the bees are dying with Tachina parasites (see Bee-Keepers' Guide). I hardly think this the trouble, as it has lasted too long. If the dead bees are carefully dissected, the maggots inside can be seen, in case this is the trouble; or, if the bees are put in a box, the flies may be reared.

In some cases bees act in the way mentioned, when pollen from milk-weed attaches to the legs. I hardly think this the case with Mr. A's bees. They have shown trouble too long, and Mr. A. would have seen the pollen-masses. So I presume it to be the nameless bee-disease, and would advise killing the old queen, and introducing another.—A. J. COOK.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	*Club.*
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Guide	1 50	1 40
Bee-Keepers' Review	1 50	1 40
The Apiculturist	1 75	1 65
Bee-Keepers' Advance	1 50	1 40
Canadian Bee Journal	2 00	1 80
The 7 above-named papers	5 25	5 00
and Langstroth Revised (Dadant)	3 00	2 75
Cook's Manual (1887 edition)	2 25	2 00
Quinby's New Bee-Keeping	2 50	2 25
Doolittle on Queen-Rearing	2 00	1 75
Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
Root's A B C of Bee-Culture	2 25	2 10
Farmer's Account Book	4 00	2 20
Western World Guide	1 50	1 30
Heddon's book, "Success,"	1 50	1 40
A Year Among the Bees	1 50	1 35
Convention Hand-Book	1 50	1 30
Weekly Inter-Ocean	2 00	1 75
Toronto Globe (weekly)	2 00	1 70
History of National Society	1 50	1 25
American Poultry Journal	2 25	1 50
The Lever (Temperance)	2 00	1 75

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

Posters for the AMERICAN BEE JOURNAL, printed in two colors, will be sent free to all who can use them. They are handsome, and will "set off" an exhibit at Fairs. It will tell bee-keepers how to subscribe, for "Subscriptions Received Here" is quite prominent at the bottom.

We will also send sample copies of the BEE JOURNAL, for use at Fairs, if notified a week or ten days in advance where to send them.

CORRESPONDENCE.

HIVES.

Large or Small Hives in Honey-Production—Which?

Written for the American Bee Journal

BY CHAS. DADANT.

In his article on the above topic, on page 216, Mr. Doolittle having written that "with large hives, owing to the poor economy of heat, the bees do not begin breeding rapidly.....and that most of the bees of such hives, hatching near the close of the harvest, become consumers instead of gatherers," I answered (see page 325), showing that the largest crop obtained by Mr. Doolittle from a single hive—566 pounds of extracted honey—was harvested by the bees of a very large hive containing 32 combs.

In his answer, on page 505, Mr. D. says that small hives are to be used only when working for comb honey, adding that I was not perfectly fair to my readers, for I had not told them that I work for extracted honey, and that he is certain that I am ignorant of the best hives and the best methods of producing comb honey.

He forgets that I have been in the bee-business in this country since 1863, having begun about six years before the invention of the extractor. Besides, as extracted honey was, in the beginning, difficult to sell at paying figures, my main crop, until about 15 years ago, was comb honey, produced at first in the square Quinby glazed boxes, supported by T supers, then in the Adair 3-pound sections, and, at last, in the one and two pound sections, such as the ones in use now. During these progressive changes, I had large hives side by side with the 10-frame Langstroth, and every year the results proved in favor of the large hives. I continued to produce partly comb honey until about six or seven years ago, when, looking for less work and more profit, I determined to produce only extracted honey.

Mr. Doolittle says, also: "When it comes to extracted honey, we want large hives, every time." Will Mr. Doolittle please explain such a difference? I cannot understand it. If a colony of bees in a large hive cannot economize heat to rear honey-gatherers in time to gather comb honey from the white clover crop, how can the same colony, in the same hive, rear gatherers in time to get a crop of extracted honey from the same flower?

I cannot see why I take the trouble of writing all the foregoing, since Mr. Doolittle himself gives the proof of the superiority of large hives, even when working for comb honey, when compared to small ones; and I cannot understand why he was not convinced by his own experiment.

He writes, on page 505, that the colony which gave him 566 pounds of extracted honey had about 15 frames filled with brood, and that another colony, *of about equal strength*, gave him 309 pounds of comb honey. Of course this last colony could not be *about as strong as the first one* unless it had also about 15 combs full of brood, besides the comb, containing honey and pollen; for no bee-keeper would believe that a colony having but 8 combs of brood (see page 216) can have as many bees as another having 15 combs filled with young by the queen. Then these 309 pounds of comb honey were the product, not of a small, but of a large hive, and I wonder why, after such a result, Mr. D. can be a partisan of nine-Gallup-frame hives, even for producing comb honey.

Mr. Doolittle adds that the reason why he prefers to produce comb honey instead of extracted, came from the fact that his 566 pounds of extracted honey brought $16.72 less than the 309 pounds of comb honey. It was about 15 years ago, but times have changed; everybody knows that now good extracted honey sells always for more than half the price of comb honey. Mr. Root, in his paper for Oct. 1, 1889, offered for sale white comb honey in 20-pound crates at 16 cents a pound, and extracted in 60-pound cans at 10 cents; at such prices, the 309 pounds of comb honey would have brought to Mr. Doolittle $49.44, and the 566 pounds, $56.60, or $7.16 more.

Of course, Mr. Doolittle, in his articles, tries to benefit his readers; I hope that he will pardon me for my criticisms, for I try to do the same, in pointing out those of his ideas that I consider unsound, letting the readers draw their own conclusions.

Hamilton, Ills.

HONEY.

Its Great Value as Food and Medicine.

Written for the Iowa Homestead

BY W. M. BOMBERGER.

The wholesale and extensive consumption of sugar as a saccharine food in a pure state, or when entrusted to the art of the kitchen, is deleterious to the health. In the preparations of food for the table, and when the selection is left to the individual, who gives no thought to health, food, and its selection is prepared with reference to the palate, and a pandering to the taste. If hunger in all cases was a healthy craving, and foods were properly prepared, this would be all right. But it is not—not in the majority of cases.

If the kitchen could return sugar into the same conditions when in cane and beets, and when eating our palatable dishes we could eat it so mingled in bulk foods, it would be all right and good. The adult or child that goes to the extreme, or is considered too nice to eat anything else than cake, is or will be the physician's charge as much as the all-corn-fed porker or suckling will need cholera medicine.

Extensive use of sugar on fruits is not as bad as the cake and cooky mania that rages in so many kitchens. The fruit acids largely neutralize the indiscriminate and injudicious use of sugar. It is no serious thing to eat considerable saccharine food in a pure state, but not in the form of pure refined sugar.

If eaten and taken in the form of honey, it at once becomes a valuable medicine food. Instead of having it given us in this form in a mixture with bulk foods, as in the cane and beet, we have it mingled with fruit juices exuded from flowers, highly charged with medicinal properties in the alchemy of nature, and the apothecary of the bee-hive.

The advantages of honey as a medicine or food are too extensive to be considered at length here. Honey taken as a food becomes a powerful medicine to the sugar-fed and half-diseased, and many must begin on small quantities and acquire an appetite for it. Many declare against it, although they like it, but claim that it does not agree with them. In these cases the person either pursues an improper diet, or eats one or two pounds at the first sitting, before being accustomed to it, and may be eats raw, unripe honey.

Honey I consider a cold-weather food. During the hot weather we get sufficient saccharine food by sugaring acid fruits in early summer. In late summer and early fall the toothsome grape and the delicious summer and fall apple furnish sufficient; but when these are gone, and cool weather sets in, and meats and fats are consumed in large quantities, fine, well-ripened clover, linden or buckwheat honey is a fine corrective and laxative.

Because of the expensiveness of lumber, most farmers in the West live in houses that are small, close and covered, that cannot be properly ventilated. In these the temperature is too often kept up into the nineties by

a soft-coal stove, which with the best of draughts, emits gases.

Foul air, improper ventilation, coal gases, together with the sudden change and exposure of lungs and throat to zero weather, or worse, in a moment, is the source to no end of throat and bronchial troubles. A free, regular and constant use of honey is probably the best medicine for throat troubles there is, and its regular use would be largely corrective here. It is always best to take our medicine and food together.

Harlan, Iowa.

FOUL BROOD.

Why it Required Legislative Action in Canada.

Read at the Oxford, Ont., Convention

BY J. E. FRITH.

My object is not to write a scientific article on foul brood, but to give such facts as every one may understand and have clearer conceptions as to the passage of the recent Bill by the Ontario Legislature, dealing with the contagious disease among bees, known as foul brood, or perhaps, more properly "bacillus alveus."

Foul brood is by no means a new disease. It has existed in all ages. We read of its attacks upon apiaries long before America was known to civilization, ages before old England was thought of, or the Christian era established. The facilities of conveying knowledge at the present time informs us that foul brood is doing its deadly work in all countries where bees are kept. Here and there, all over the continent, whole apiaries are being swept out of existence, even whole districts succumb to its fearful ravages, and yet 90 per cent. of the bee-keepers throughout the country do not seem to realize the consequences to the bee-industry.

Let a contagious disease appear among cattle, sweep off 50 cows for some farmer, pass on to the next and kill 10, to another and a hundred are worse than useless, and so on for a radius of a dozen miles. How would the disaster affect dairymen? How much greater would the calamity appear, *be*, were the disease raging in 50 localities throughout Ontario, and this is exactly the bee-keepers' position to-day. Foul brood is more or less undermining the bee-industry of Ontario. Whole apiaries have gone under, and in some cases the bee-keeper has been forced into bankruptcy. The disease is far more prevalent than most people are aware of.

Young bee-keepers, and old ones too, are slow "to own up," hence their neighbors become victims to its deadly doings before they have even dreamed of its existence in their vicinity. This should not be, nevertheless it is a fact. Large bee-keepers all over the land are "hauling in sail" for fear of the subtle storm. Had open frankness existed along this line, many an ably equipped and successful apiary to-day would have been remunerating hard toil. Every bee-keeper ought to throw out the danger light. Every bee-keeper does not do it, and every bee-man will not do it, until compelled to by "a whip to keep a coward to his track." I will illustrate by one fact, for "facts be stubborn things."

An honest man, for so he is called, rushes into the bee-business, without at all acquainting himself with its "ups and downs," its "cloud and sunshine," much less with its scientific and practical working. His grand-dad had bees, and he heard a lot at a meeting, didn't pay for it either, and read some more in a paper, and saw some honey at a store in cakes, and knows a "heap o' things." This bee-keeper boomed along by the old swarming method until he had fifty or more colonies. He gets some more knowledge, and must have a queen. "Cheapest best" (?), and despite every warning, makes the contemplated improvement, from a foul-broody district, of course.

Two years, or thereabouts, Neighbor Caution, on making enquiries regarding his friend Know Much's apiarian success, finds that the booming apiary had collapsed with foul brood, and the proprietor was sorry to admit it. This actually took place within two miles of a flourishing apiary of over one hundred colonies. On close examination it was found that 40 per cent. of the apiary was affected, and that all the bees for miles around were dying from some cause. Three hundred colonies went under. Why? Just because the "red light" was not thrown out in time.

This thing is being repeated in more than one place in this province. This illustration shows up but one class, the most dangerous of all. We do not wish to illustrate the every-man-for-himself man, who, to close his accounts in balance, disposed of his bees at his neighbor's cost; or the misery-loves-company man, who allows his neighbor's bees to get the disease without warning him of the danger, or the absolutely selfish and jealous man, who throws diseased combs into his neighbor's bee-yard.

We know a man who sat at the entrance of his worn-out colony of blacks and vindicatively killed "them 'ere Hitalians of Joneses what's bin a robbin' on of his honey." The joke in this turned on himself, for he destroyed his hybrid colony, mistaking them for Italians. It is the spirit of the action. He did not throw foul brood into your bee-yard! He'd do it everytime. Fortunately this class is few. Without more, danger lurks around, and to protect honest bee-masters, it was necessary to hedge them around, and to say by law, "hitherto shalt thou come, but no further."

Though it be not my province in this article to discuss fully the many exciting theories regarding foul brood or its origin, yet it appears quite necessary at this juncture to ask and answer the question, "What is foul brood?" From scientific and practical observations and researches the name *bacilus alveus* has been applied to the disease. The term means a hollow stick or hair, or, in plural form, sticks or hairs with or without a seed or berry on the end, which appear to be very rudimentary in foul brood.

A good illustration of bacillus would be thistle down, dandelion seed, burdock seed, or beggar-lice. When applied to foul brood, there appears to be but one stick or hair, but having the power of adhering to any and every thing. Hence the disease is very contagious. Those "wee" (for they are so exceedingly small that thousands of them can adhere to the point of a cambric needle) seeds may be, and are conveyed in many ways. They adhere to anything, float in any congenial liquid, and fly by means of the hollow hair or hairs, upon the "wings of the wind."

These little seeds, when dormant or ripe, are partially carried out by the bees and distributed long distances by the wind on flowers, or at the entrance of other hives, and thence carried by unwary workers to their homes, there to repeat its destruction. Some of the seed adheres to the walls of the cell, and young larvæ born then die, or rather are eaten up. Bees manipulating this disease carry some of the sticks to other cells. So the contagion goes on. It can be and is carried in a hundred ways. The most prolific source of contagion being by honey, in which the sticks float with amazing ease.

The disease is highly malignant because it is "hostile to life," in fact, it is fatal. It is now an undisputed fact, that a larva attacked by this insect, seed, germ, or whatever it may be, certainly dies, is eaten up, and converted into a thousand other animalcules, some say a billion, just as a farmer converts corn into beef and pork, grass into milk and butter, or hay and feed into other animals. Let us magnify. Turn a pair of wolves into a sheep-fold. If left to "nature's course," they will eat up the sheep,

reproduce themselves, go to the next fold and repeat, and so on. Death to the sheep, certain death. The phenomenon is easy of solution. A similar process goes on with infinitesimally small foul broods. We simply see the results—death to larval bees.

I take strong grounds against the expressed views that there is incipient or mild type of foul brood. I expect to step on "corned" theories. If they hurt, kick. An incipient or mild type of wolf, lion, tiger, hawk, eagle, Canada thistle, hay cholera, small-pox, etc.! Surely the idea is ideal. We would like to see a sample. If you have a pair, so to speak, of foul brood, death is in the cell. You simply have a little, and if not eradicated, you very soon will have much.

One germ is as malignant as a million. It is only by the difference in numbers—quantity. The less the number or quantity, the less slowly contagion goes on; the greater the number, the more rapid and more violent the contagion. One seed or pair of seeds attack a larva. A very short time, and millions are produced. One larva is eaten up, a thousand "seeds find a lodging place, and a thousand bees go the way of all living." Death of one, and death of a thousand, that is all! It is malign! It is death, all the same!

In order to correct a few false ideas, which have a specific bearing upon the requirement of legislation, I will endeavor to make clear the origin of foul brood. Where is or was the beginning or origin of anything, either animal or vegetable? Foul brood certainly belongs to one of the great kingdoms of life. It is not a chemical process. In the beginning, etc., and again everything brought forth seed after its kind. It simply had its origin away back in the ages.

It was, like every other living thing, created by a superior intelligence, and like every other living thing, it has been endowed with reproducing faculties. All that is needed is that the seed take root in some appropriate soil or congenial atmosphere. Decapitated drones, filthy hives, and such things have nothing to do with the matter. Why not rats, mice, vermin, etc., spring up in existence in similar ways? Cut off the heads of bulls and rams, and men will spring spontaneously into being. Fill the valleys with filth and look for noble herds to come forth. Nonsense! Put the seed into the ground and harvest will be sure; the male and female into the herd, and the cattle upon a thousand hills appear, the seed germ, or whatever it is, male and female, into a clean, pure, white, sweet, young bee, and millions of foul brood are born in a day. Foul brood beings do not like filth. They want just a living, juicy bee or similar food, and the work goes on.

Can the disease be cured, is the critical question of the day? Yes. Why is it not generally and satisfactorily done? Why are not all the rattle-snakes in America killed, the cobras of Asia, the lions of the jungle, the rabbits of Australia, or sharks of the sea? A lion can be shot if seen, or poisoned if persuaded to take bait. If either cannot be done, a thousand shots fired into a jungle may not take effect. A rattle-snake come in contact with may be killed, but all the sticks and stones hurled at the rocks will not reach those in its crevices and holes. Foul brood can hide in the holes and crevices of bee-cells, and in the forests of growth upon their walls as safely from all the drops of acid or other missiles that may be fired at them. Many may be, and are killed, but some escape, live and reproduce.

Once in awhile a bee-keeper may, and does, succeed in arresting the disease, but it is under very favorable circumstances that it can be successfully accomplished. It is doubtful if there be a method in existence that will work satisfactorily in anything like a maximum percentage of cases under all circumstances. I have tried the best known methods. They cure, but in circumstances similar to ours, the cure about equals the loss by disease in cost. Were I again to be similarly placed, the most perfect of all purifiers, fire, will do the work of curing. It is the simplest, quickest and best in the long run.

These facts, merely hinted at, carried out in practical detail, have led a goodly number of our best and most successful bee-men to put forth effort in securing legislation. These facts laid before our legislators, aroused their sympathies toward an honest and profitable industry, and to-day the business has its first protecting barrier. The Bill may be severe. If any one should lose one to five thousand dollars through the wanton abuse of privilege, would they say so? Own up. Be honest for once, and fall in line. Magnify our law and give to the world, to our neighbor, the purest, cleanest, highest, healthiest bees in existence.

Woodstock, Ont.

BROOD-COMBS.

The Proper Distance to Space Combs in the Hive.

Written for the American Bee Journal

BY REV. W. P. FAYLOR.

The article from Mr. Z. T. Hawk, on page 487, calls me out again. He seems to think that bees of their own accord build their combs in hollow trees and box-hives, 1½ inches from centre to centre; but what are the facts in the case? Observation and experience both prove that this is not exact. In my former communication, I said that bees build all the main combs not less thas 1½ inches from centre to centre; and they usually average the distance much more than this.

I have just recently transferred 5 colonies of bees from box-hives, and knocked the tops off of two more to get some honey for a neighbor. Many of these combs were as far as 2 inches from centre to centre, and the nearest I found any of the brood-combs from centre to centre was 1⅜ inches. It will be readily understood why bees in box-hives come out so strong in the spring. They thus have room to cluster in goodly numbers together, with plenty of stores all through the winter just above their little heads.

Where bees are wintered on combs closely spaced, they soon consume the honey in the middle of the hive, and must run back and forth to the outside combs to get food, to the inside of the cluster. This worries them, and hence shortens their lives.

Mr. Hawk says: "When bees are wintered in chaff hives or the cellar, this matter of close or wide spacing cuts a very insignificant figure." I admit that the difference in wintering would not be so great, but is it not a fact that not more than one colony of bees out of a hundred, and possibly not more than one out of every thousand, ever see the inside of a chaff hive at all?

Again, Mr. Hawk tries to make a point for close spacing, from the "bulging theory." If the bees are left to care for themselves, no matter how wide or close frames are spaced, they will widen out some combs more than others. It is the business of the bee-keeper to notice in the start what newly-hived swarms are "up to," and how they build their combs. I have not a single comb in my whole apiary but what can be changed for any other, and will fit between any two combs in the yard, without being shaved off, either.

Mr. Hawk further asserts that when a cell is once lengthened, the bees

never shorten it again. I wonder that any bee-man would take such a position. I have combs at present that are filled with brood from bottom to top, that last winter were widened considerably. Many a time I have found the combs in box-hives filled with brood from bottom to top, and certainly others have observed the same thing, and the extra length of cells is made use of for capping the brood. I do not blame the bees for not wanting to put brood in combs that are so close together that enough bees cannot get over the cells to keep the brood warm. They are sensible little creatures, and know what they are about.

But again, Mr. Hawk thinks that bees are slower to enter the sections when combs are spaced 1½ inches from centre to centre. Last season Dr. Johnson kept an apiary within 30 rods of my bees, and all his hives had the brood-frames spaced 1⅜ inches from centre to centre. We had about an equal number of colonies of about the same color and "blood." Mr. Johnson understands the business, too, and yet my bees beat his to the amount of 59 pounds to the colony, in storing surplus honey. My hives were all eight-frame, and his were partly ten-frame.

When combs are spaced far enough apart to give ventilated passage-ways to upper stories, bees are not so apt to lounge about the outside of their hives, and prefer the sections to the outer surface.

Let it be remembered that combs spaced 1½ inches from centre to centre, is not a wide spacing, only a medium spacing. Any spacing closer than 1½ inches, I regard as close spacing.

St. Bernice, Ind.

CARNIOLANS.

My Experience with them During Three Seasons.

Written for the Pacific Rural Press

BY S. L. WATKINS.

As I have had considerable experience with this race of bees during the last three seasons, a few items concerning them may be interesting and valuable to your many readers. I will first state that I have no bees of this race for sale.

The average Carniolan, as I find them, are about the most easily handled of any race of bees, although when crossed with the Italians, they are a little more irritable; but for an all-purpose bee, I should prefer a cross between the Carniolan and Italian.

As regards their working capabilities, they are superior to any other race. They go to work earlier in the morning, and this sometimes counts a good deal when they are working on plants that yield honey only early in the morning. Another good point in their favor is that they are longer lived than the average bee, thus making them a desirable acquisition to bee-keepers located in cold and uncertain climates, where they are confined so long in winter time.

Carniolan bees are not given to robbing to any extent, and are vigorous defenders of their hive. The queens of this race are quite variable, some being of a beautiful lemon color, and again others that could not be told from the average black queen; yet all produce workers of the same typical characteristics.

The variation in color of the Carniolan queens is no indication that the race is not pure, as the uniformity in color of any race is accomplished only by the breeder.

All the young queens of the Carniolan race produce bees more or less banded. They become more uniform in color, as the age of the queen advances.

Carniolan bees are characteristic by a scarcely distinguishable shade of yellow on the first segment of the abdomen, and then follow several broad, silvery bands, giving the bees a beautiful silvery appearance. Their wings also are of a glossy, silvery brightness. Queens of this race are exceedingly prolific, and this accounts for their great propensity to swarm; but when handled rightly and given plenty of room, this is overcome to a great extent.

Carniolans after being crossed with other races, continue their prolificness for several generations afterward. As they possess several virtues of their own, and most of the desirable characteristics possessed by other races, they are indeed a valuable race to cross with. These bees being natives of a cold and windy climate, and being restricted to short forage in certain seasons, they have naturally solidified themselves into a very hardy race. I have received several letters from Northern California apiarists, who speak highly of their hardiness, good wintering qualities, etc. In the higher Sierras the bees last winter were covered with from 5 to 25 feet of snow, and in some places they did not have a fly-spell for three months. One man writes from Sierra county that out of 54 colonies he has only 12 left. All of these 12 are Carniolans, and they came through bright and strong. He lost all of his Italians and blacks.

The Carniolan race of bees cap the cells of their combs with wax of snowy whiteness—in fact, combs and all are exceedingly white, more so than combs built by any other race of bees. In this matter of white-comb building, it counts a great deal in the eyes of the bee-keeper.

They gather very little propolis, thus leaving the frames easy to handle, and the sections a pleasure to take off, as they are as clean as when they were put on.

I used to be annoyed considerably by robbing when I kept nothing but Italians—sometimes it was almost uncontrollable; but when I got the Carniolan race pretty well introduced, I had hardly any trouble with robbers.

I am fully convinced that this race of bees possesses very desirable characteristics as regards very white-comb building, gentleness, prolificness, and non-robbing disposition. It is my opinion that in the near future they will play a prominent part in apiaries where Italians are now the favorites. In this part of California they have proved a valuable race.

Grizzly Flats, Calif.

GRANULATION.

The Importance of Granulated Honey in Premium-Lists.

Written for the American Bee Journal

BY R. F. HOLTERMANN.

The premium-lists of some of the leading exhibitions in America have given me a thought which I think should be recorded for the benefit of bee-keepers. An article in the *Bee-Keepers' Review*, by Chas. Dadant, confirms that opinion. What are we doing to educate the public to look upon granulated honey as pure honey? Very little is certainly being done by our exhibitions, when the term granulated honey is not even mentioned in the premium-list.

If granulated honey could be found in the list, many could take advantage of the circumstance, and show that honey granulated solid must be a genuine article, or a premium would not be given for it. Let every one use what influence he may have, to see this matter remedied. There must be no relaxation in the matter, and the display of granulated honey is more necessary than that of honey-bearing plants, honey-vinegar, honey-cakes, etc.

We cannot altogether prevent the granulation of honey. By that I mean, no matter how much we show how granulation may be prevented, and no matter how much we may exert ourselves to get others to prevent it, honey will be allowed to granulate, and for this reason we may as well educate

the public to the facts of the matter, and say, "Honey will granulate;" and this is no proof that it is impure—rather that it is pure, although all pure honey may not granulate.

As far as my tastes are concerned, I eat it when I can, every day of the year, and no bee-keeper need be afraid to place honey before me. I like it granulated fully as well as when re-liquified, and I believe that I like it granulated as well as liquified before granulation; and I practice just what I preach in the matter when I say that honey is a wholesome food, nourishing, healthful to the bulk of mankind as any ordinary food; cheap, for a dollar's worth of honey has more food in it than a dollar's worth of our ordinary fruits which we can. A can of fruit must the greater part of the year be consumed shortly after opening; honey is not so, for it can be kept in a dry atmosphere for any length of time, and still remain a good article of food.

Romney, Ont.

GOING HOME.

Bees and Insects Finding their Way Home.

Translated from the Kolnische Zeitung.

It is well known that the common honey-bee often visits places many kilometres distant from its parent colony. One finds the insect, for instance, in rape fields, and upon moors miles away from any apiary. In such cases they do not show any signs of having lost their way, but on the contrary, when they have collected their load, fly off without hesitation in a fixed direction clearly towards their home, and upon their arrival they make no mistake about the hive to which they belong, but each individual lands upon the alighting-board of its proper dwelling. These and similar facts give rise to the interesting question—Do the far-flying insect possess a peculiarly instinctively operating sense of locality, or do they direct their course, as others do, by means of landmarks with which they have gradually become acquainted?

The partisans of the blind-instinct theory have always been inclined to decide in favor of this peculiar sense of locality, and one of the most zealous of these, Fabre, believes that he has supported his views by actual trials made. He took ten bees of the genus Chalicodoma, which were established in the vicinity of his house, marked them with a white spot on the back, and put them in a bag. He carried them half a kilometre away to the east, swung the bag repeatedly and rapidly round his head, went then towards the west the bag being closed all the time, and carried his prisoners in that direction until they were three kilometres (about two miles) distant from their nest. Here they were again twirled around, and then separately liberated. They flew around him a few times, and disappeared "in the direction of their home." Fabre's daughter was there in waiting, and noted the arrival of the bees. The first appeared after the lapse of a quarter of an hour, two more in the course of the next hour; seven did not return at all.

On the following day the trial was repeated; the first bee arrived after five minutes, two more within an hour, and again seven remained out. By various repetitions of the experiment, in which the insects were conveyed by roundabout ways to the place of liberation, the same average results were obtained. About one-third of the bees found their way home in periods varying from a few minutes to a few hours; the rest did not return. "The trial," says Fabre, "is decisive; neither the complicated whiling movements, nor the artificial roundabout ways can confuse the Chalicodomas, or prevent them from finding their nest." He concludes accordingly that the animals are guided by a special sense of locality.

If the trials, however, are closely examined, they will be found to prove directly the contrary of that which their originators would gather from them. If a direct-acting instinct be assumed, then it should show itself equally in all the bees, and not only a third part, but the whole number of the liberated bees should find their way home, with exception perhaps of very few that might possibly meet with some accident in a flight of a few kilometres. It would be inconceivable that two-thirds should remain out.

This is, however, quite comprehensible, if we assume that the bees do not at first know whether they should fly. In that case they will disperse in all possible directions; the one-half will fly so that from the start they go only further from the nest, and these become lost; of the other half, a small portion fly almost directly towards their nest, arrive soon in a neighborhood known to them, take their bearings, and arrive home in a few minutes; the others fly in an intermediate direction, and make excursions here and there. A portion are lucky, come to some known spot, and so find their way home, but only after hours of search; the others are not so fortunate, and are consequently lost.

This is exactly the state of things shown by Fabre's experiment insects, and his results therefore tend to show that the Chalicodomas in fact could only find their way home when chance had brought them to a place known to them from previous flights. This is also in accordance with their manner of starting when liberated; they fly first upwards in circles, like carrier-pigeons that wish to obtain a general view of the surrounding neighborhood.

Fabre's statement that his bees after making a few rounds all flew in the homeward direction is doubtful to himself; he makes it with reservation, and it cannot be correct, for in that case so many of his insects could not have been lost. Even those that did arrive home would then have had no cause to remain out for hours.

The two English naturalists, Lubbock and Romanes, have made similar experiments, the first with ants, the latter with bees, and both have arrived at results which plainly contradict the instinct theory. Lubbock set a glass full of honey near an ant's nest, and after a number of ants had climbed into it, he carried it carefully on to a board which was placed in the first experiment only 18 inches, and in the second 50 yards distant from the nest. The ants now missed their usual means of guarding their course—the retracing of their own foot-track—and showed that they were confused. They left the board in every possible direction. From the trifling distance of 18 inches they found their way back to the nest, but only after long wanderings about, and when chance brought them into its close vicinity; but in the distance of 50 yards they were hopelessly lost.

Romanes brought bees into a house in the neighborhood of the sea. To both sides of the house were extensive flower beds, but between the house and the sea lay 200 metres of meadow land. It was therefore to be assumed that the bees, if they diverted their course by ordinary means, would soon become acquainted with the neighborhood on each side of the house; in the direction towards the sea, however, they had nothing to look for, as the meadows offered nothing useful to them. A bee-hive was fixed up in a room in the house, and time was allowed for the insects to become acquainted with the neighborhood.

At night time the window and the entrance to the hive were closed; in the morning the desired number of bees were let out of the hive, caught on the window-panes, and counted into a box. The alighting-board of the hive was then brushed over with bird-lime, so that every bee returning to the hive would be at once stuck fast and kept for examination. When the imprisoned bees were liberated on the flower-beds, they were regularly found

after a few minutes stuck upon the alighting-board; but when they were brought to the seashore, not one came back.

More than this, when Romanes liberated the insects on the meadow, only 200 yards distant from the house, not a single one found its way home, whilst a similar distance over the flower garden was so quickly covered that the observer would find the bees already sticking to the alighting-board, no matter how quickly he would run back to the house himself. Herewith then it is clearly shown that the bees found themselves at home wherever and because they were acquainted with the locality by previous visits, whereas there, where they had no previous knowledge, on the meadows and on the seashore, every means of directing their course failed them. They guided themselves therefore by means of previously-gained experience, just as carrier-pigeons and as men do.

After adducing other instances of the manner in which some non-gregarious bees and wasps find their way to their nests built in the ground, or in sand-hills, or in empty snail-shells, and their proceedings when attempts are made to puzzle them by shifting their landmarks, the writer concludes as follows:

"Viewed in this manner, the powers of guidance of the insects loses much of its marvelous character, but it becomes only so much the more interesting. We see how the animal, simply by a sensible use of its natural resources, accomplishes things which at first sight appear difficult of explanation even to our so much more developed powers."

Doolittle on Queen-Rearing.

Queens can be reared in the upper stories of hives used for extracted honey, where a queen-excluding honey-board is used, which are as good, if not superior, to Queens reared by any other process; and that, too, while the old Queen is doing duty below, just the same as though Queens were not being reared above. This is a fact, though it is not generally known.

If you desire to know how this can be done—how to have Queens fertilized in upper stories, while the old Queen is laying below—how you may *safely introduce* any Queen, at any time of the year when bees cay fly—all about the different races of bees—all about shipping Queens, queen-cages, candy for queen-cages, etc.—all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact everything about the queen-business which you may want to know, send for "Doolittle's Scientific Queen-Rearing;" a book of 170 pages, which is nicely bound in cloth, and as interesting as a story. Price, $1.00.

CONVENTION DIRECTORY.

1890. *Time and place of meeting.*

Aug. 19.—Northern Illinois, at Harlem, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

Aug. 29.—Haldimand, at South Cayuga, Ont.
E. C. Campbell, Sec., Cayuga, Ont.

Sept. 10.—Ionia County, at Ionia, Mich.
H. Smith. Sec., Ionia, Mich.

Oct. 29-31.—International American, at Keokuk, Ia.
C. P. Dadant, Sec., Hamilton, Ills.

Oct.—Missouri State, at Mexico, Mo.
J. W. Rouse, Sec., Santa Fe, Mo.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

International Bee-Association.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
SECRETARY—C. P. Dadant.....Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y. AND MANAGER—T. G. Newman, Chicago.

SELECTIONS FROM OUR LETTER BOX

Reversible Frame—Honey Crop.

I send by this mail a sample of a simple device for reversible frames. By attaching one on each corner of the frames, they can be quickly and easily reversed. I do not know whether it is new or old.

The honey crop in Southern Indiana failed to "pan out," as was expected in early spring. White clover was never more abundant, and the promise of an abundant harvest was cut short by the dry weather, 600 pounds of comb and 200 pounds of extracted was the sum total of my crop from 18 colonies. I get 20 cents per pound for all the comb honey I have to sell, in my home market. W. C. R. KEMP.

Orleans, Ind., Aug. 1, 1890.

[The device for reversing frames is a piece of tin bent over the ends of the frame, with a slot and screw, allowing it to project at will. We have several in our Museum made on the same principle—so that it is not *new*.—ED.]

Bee-Keeping in Australia.

No doubt the readers of the BEE JOURNAL will be surprised to receive a letter from this part of the globe; however, it will let them know that we are not quite "dead" in the bee-keeping line out here. I am a member of the Hunter River Bee-Keepers' Association, of New South Wales—the only association in the country towns that I know of. Through it I have received several copies of the AMERICAN BEE JOURNAL, and I must admit that I have been greatly instructed by reading them.

We have only one bee-paper in the colonies, or rather New Zealand, and that is the *Australasian Bee Journal*, published once a month at Auckland, and edited by Mr. Isaac Hopkins—one of the foremost men in bee-culture in the Southern Hemisphere. Lately, however, that periodical has been incorporated with the New Zealand *Farmer*, which now appears as the New Zealand *Farmer, Bee and Poultry Journal*. I think that more space will now be available for apicultural items.

In reading the AMERICAN BEE JOURNAL, one out here cannot but be impressed with the amount of trouble American bee-keepers have in wintering bees. It is the middle of winter with us now, and yet every fine day my bees are carrying in pollen. Why, to see snow once in ten years on the mountains, in this locality, is something out of the common, and, as regards frosts, we but seldom see ice. It will thus be seen what a mild climate we have. White clover and basswood, or linden, seem to be your chief sources of honey. We have the far-famed eucalyptus trees, which are of great value to the bees. Then alfalfa, or lucerne, thrives well here; also hoarhound, and many other plants; but the climate is rather too hot for white clover and basswood. We have no other than black bees here, but there are plenty of Italians in the colony, and next spring I hope to introduce them. As far as I know there are no Syrian, Carniolan or Cyprian bees in this Colony. Bee-keeping is only in its infancy here, but in the course of a few years I expect it to take great strides.

W. SHAW.

Mudgee, New South Wales, July 11, 1890.

A Dry Outlook for Apiarists.

The honey crop here is almost an entire failure. The intensely hot, dry days of the past week, have pretty effectually killed the clover. It is a very *dry* outlook for bee-keepers here. C. H. DIBBERN.

Milan, Ills., Aug. 4, 1890.

Ready for the Fall Crop.

Bees had a very poor spring this year, but got a little honey in June—just enough to create some swarming. I now have located in my home apiary 1,000 colonies of bees, and all are in fine condition for the fall crop of honey. E. STAHL.

Kenner, La., Aug. 1, 1890.

Slim Crop of Poor Honey.

The honey crop hereabouts will be very slim this fall, and the honey of poor quality. Last year, with 22 colonies, spring count, I had 2,125 pounds of choice honey; this year, with 36 colonies, I will not have 500 pounds of good, bad and indifferent honey, with an increase of 13 colonies.

S. H. HERRICK.

Rockford, Ills., Aug. 1, 1890.

The Lake Pepin Disaster.

The account of the Lake Pepin disaster, on page 500, is erroneous. The Investigating Committee find that there were only 204 persons in all; 98 dead bodies the Red Wing authorities say, and 104 escaped—at first they said 100 bodies. The baby story was all a hoax. Mr. Basey nor I know of no such thing. I was at the wreck, which lay in sight of my house until all the bodies were found.

EDWIN WILSON.

Lake City, Minn., July 30, 1890.

By request, Rev. S. Roese replies to the above as follows:

Since receiving statements and official report concerning the late Red Wing disaster, I find that the number of saved and lost, as stated on page 500, is somewhat incorrect. Early newspaper reports concerning the lost and saved, were somewhat conflicting and incorrect, and the baby story wholly without foundation. I sent to the Lake City *Republican* office for more official statements and reports, and on reviewing the same, a "special" published July 19, with a statement of D. W.

Wethern, Captain of the ill-fated Red Wing, and E. M. Niles, Clerk, who both said that 147 excursionists took passage on the Red Wing, and on return an additional number (two ladies from the steamer Wanderer, and eight men from the steamer Undine, with about ten more residents from Lake City, who wished to take passage to Red Wing), which would have been about 175 in all; but a few passengers of those who came down, failed to get back in time to reach the boat on its return, which fact would leave the number of passengers on board under 175.

The passengers on board the barge which was cut loose from the steamer on capsizing, were drifted near Lake City, and all saved, and many lives were saved besides, by the heroic efforts of citizens and soldiers during the night, so that the list of saved, according to the Lake City *Republican's* special of July 19, would amount to 80, and the list of lost 98; and according to this last number, memorial services were held on July 25, in Red Wing. Some late papers have the number of lost at 103, but it is the belief of many that all the dead bodies have not been found yet.

STEPHEN ROESE.

Maiden Rock, Wis., Aug. 4, 1890.

Hardly Gathered a Living.

Our big honey-flow run up against a stone wall about July 10; since that time the bees have run a little behind on their board bill, but should the drouth break in time, we will be in good condition for buckwheat and other fall honey. As near as I can learn, bees have stored on an average about 20 pounds per colony, spring count, in this vicinity. F. E. BURROWS.

Delavan, Wis., Aug. 1, 1890.

Three Years of Total Failure.

This has been a very disastrous year for me. I had great expectations, as everything looked so promising last spring, but here I am so far without one pound of surplus, no swarms, and I have no hopes of any buckwheat honey, as it is completely dried up. This is three years of total failure here, and I fear it will be too much for me. T. S. SANFORD.

New Castle, Pa., Aug. 14, 1890.

The Season in Wisconsin.

At this time we expect to hear reports of the honey crop. My bees came out of the cellar in good condition, without the loss of any. One colony swarmed out in the spring. I have had but one natural swarm. Cold, wet weather continued until the last day of June, so that the bees were almost entirely destitute of any stores, and some of them just on the point of starving. Brood-rearing entirely stopped. I believe that there really was less bees on June 15, than when I put them out in April; but now the hives are full of bees and honey. Most of the bee-keepers think that because they have no surplus, there is no honey, or the bees have not done anything; but they have done well, it seems to me, considering their condition and the short time that they had to do it in. My bees are working in the sections now; I have taken less than 200 pounds from 31 colonies. White clover will be gone in a few days, the hot, dry weather drying it out, but I am looking for a fall crop if we get rain in time. I sent to Washington for some Chapman honey-plant seed last year, and it has blossomed this year. I think that it is one of the best of bee-forage plants. I shall save the seed.

F. COUNCELMAN.

Doylestown, Wis., Aug. 1, 1890.

Much Swarming—Little Honey.

There seemed to be no nectar in white clover, and the bees were living from hand to mouth until basswood bloomed, then, of course, they had lots of room in the brood-chamber for honey, and they put it there; consequently we got but very little surplus. I had 9 colonies in the spring, increased to 14, and have an average of 24 pounds of basswood comb honey per colony, spring count. My bees have averaged better than any I know of. This has been another great season for swarming with some; one man, three miles from me, had 8 colonies in the spring, and now he has 40, so it can be guessed about how much honey he has, and how many dead colonies he will have next spring, if he undertakes to winter them without feeding. It is very dry here, and the prospect for a fall crop of honey is very poor. J. S. MCINTIRE.

Maple Plain, Minn., Aug. 5, 1890.

No Honey and no Swarms.

My 14 colonies wintered all right, and I had my first swarm on May 28, and had 11 first swarms; second swarms I put back. I have 25 colonies in all, have not a pound section full of honey yet, and expect no more swarms. My bees are killing off drones now. ROBERT SCHULTZ.

Alma, Wis.

Suffering for Moisture.

I have now 140 colonies of bees in fair condition for winter, from 80 colonies in the spring, after the great dwindling. I have no surplus honey to speak of, and do not expect any unless it rains very soon. Two years ago one very heavy shower, the last day of July, gave me over 2,000 pounds of fine golden-rod honey. Everything in this locality is suffering badly for moisture now. J. L. GRAY.

St. Cloud, Minn., Aug. 1, 1890.

Honey Crop a Failure, etc.

The honey crop is a failure in Central Wisconsin this year. My bees wintered well—only lost one colony, having 40 colonies, spring count, and 14 new swarms since. I put my bees into the cellar very early, and did not take them out until the weather was settled, and they could gather pollen. Most of the bee-keepers through this country lost from 50 to 70 per cent. of their bees last winter. I never had any great loss in wintering my bees in the cellar. I keep the temperature of my cellar from 35 degrees to 40 degrees, and remove all dead bees from the bottom-board at least once a week. I am using the Langstroth hive, with the bottom-boards hooked on. I make no change for wintering, leaving the same honey-boards on that I use in the summer, remove the cap, and put them in the cellar. A. N. DEGROFF.

Berlin, Wis., Aug. 4, 1890.

The Mysteries of the Hive.

Recently a "pioneer" bee-keeper was viewing my bees; passing through the aisles, he saw a drone, and said that they were the only *she* bees there were. Leading lights sometimes disagree! He said he thought it wrong to kill such bees. I was transferring a colony once, and a young lady was looking on to see the queen, when a drone made its appearance, looking larger than a worker, so that her attention was drawn to it. She desired to know what kind of bee it was, and when told that it was a drone, she wished to know what *it* was for. I told her it was a *voracious* eater, etc. If she was curious enough to investigate, may be she has discovered its various uses ere this.

Though using a different hive from Mr. Doolittle, I consider him safe to follow in many things. It will not do for a bee-man, any more than a business man, to "lose his head" and follow any one blindly, but use judgment in all things. T. F. KINSEL.

Shiloh, O., Aug. 4, 1890.

Expects a Fall Crop.

The honey crop for 1890, in this section of country, will be very light—white clover did not yield one drop, and from apple bloom to linden flow many colonies were in a starving condition; but the basswood flow was fair, and weak colonies have recruited in numbers, and active breeding continues; but new swarms were few, except those which were in first-class condition in early spring. Many colonies are killing off drones. The late rains seem to have a reviving effect on nature, with a prospect of a fair fall honey crop. Reports from German bee-papers regarding honey crops are encouraging. STEPHEN ROESE.

Maiden Rock, Wis., Aug. 4, 1890.

HONEY AND BEESWAX MARKET.

KANSAS CITY, Aug. 9.—The receipts of comb and extracted honey are very light; demand for comb is good at 14@15c for white 1-lbs.; dark 1-lbs., 12@13c. Very little demand for extracted yet. Beeswax, 22@25c.

CHICAGO, Aug. 9.—New honey arriving very slowly, demand active, and all receipts are taken promptly. We quote: White clover 1-lbs., 14@15c; 2-lbs., 12½@13c; dark 1-lbs., 11@12c; 2-lbs., 9@10c. Extracted meets with quick sale, values ranging from 6½@7½ cts., depending upon quality and style of package. Beeswax, 28@30c.

S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, August 6.—Demand is good for the new crop, and receipts are very light. White 1-lbs., 15c.; 2-lbs., 13@14c. Dark 1-lbs. 12@13c.: 2-lbs., 12c. Extracted, white, 7c.: dark, 5@6c.

HAMBLIN & BEARSS, 514 Walnut St.

KANSAS CITY, July 15.—The receipts of new comb honey are light, and demand equal to the receipts. One-pound white comb is selling at 14@15c. Very little demand for extracted at present. Beeswax, 25c.

CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

MILWAUKEE, July 14.—The demand for honey is good for this season of the year. The supply of old crop is fair—equal to the demand. We can quote: White 1-lbs., choice, 13@14c; medium white 1-lbs., 12@13c; dark 1-lbs., good, 10@11c; white extracted in barrels and half barrels, 7@7½c; white extracted in kegs and tin cans, 7½@8c; dark, in barrels and kegs, 6@6½c. Beeswax, 28@30c.

A. V. BISHOP, 142 W. Water St.

DENVER, Aug. 7.—Old honey all gone. New crop is arriving freely. Prospect good for a fall crop. We quote: 1-lbs., 14@16c. Extracted, 6@8c. Beeswax, 20@25c.

J. M. CLARK COM. CO., 1517 Blake St.

BOSTON, July 23.—Fancy 1-lbs., 16c; 2-lbs., 15c. Extracted, 8@9c. Honey sales are very slow. We have recently received a shipment from Michigan, of very fine stock, which is an ample supply for us for the summer.

BLAKE & RIPLEY, 57 Chatham Street.

CINCINNATI, July 9.—Demand is good for the new crop of extracted and comb honey. Judging by present arrivals, there has been a good crop harvested. Extracted brings 5@8c. Comb honey, 12@15c for best white. Beeswax, in good demand at 24@26c on arrival.

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☞ The Cortland Union Bee-Keepers' Association, will hold their Annual Basket Picnic at the Floral Trout Park, in Cortland, N. Y., Tuesday, Aug. 19, 1890. Essays will be in order. All come.
M. H. FAIRBANKS, Sec.

☞ The Northern Illinois Bee-Keepers' Association, will hold its fall meeting at Harlem, Ills., on Aug. 19, 1890. D. A. FULLER, Sec.

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